

ABSTRACT OF THE DISCLOSURE

A liquid crystal display device. The liquid crystal display device comprises a shift register, a data bus, switches, a set of comparators, a set of latches, and a set
5 of digital-to-analog converters. The shift register generates a sample pulse which samples in time series an input digital signal corresponding to a pixel. The switches sample an input digital signal in the data bus in response to the sampling pulses. Each of the comparators has a first
10 input terminal for receiving a digital signal sample by the corresponding switch and a second input terminal for receiving a reference voltage, and compares the digital signal and the reference voltage to output a comparison result. Each of the latches holds the comparison result.
15 Each of the digital-to-analog converters generates an analog signal based on a digital signal held by the corresponding latch and applies the analog signal to a corresponding pixel.